

Effects of green tea (*Camellia sinensis*) on plasma lipids and oxidative stress in mice submitted to physical training

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Green tea is considered a functional food with specific potential benefits, such as decrease of free radicals, consequent reduction of oxidative stress and reduction of lipid oxidation. When green tea is associated with regular physical exercise, it stimulates the catabolism of fat and its subsequent use in skeletal muscles. This study aimed at evaluating the antioxidant effect of green tea (*Camellia sinensis*) on the lipidic profile of C57BL/6J mice submitted to physical training. Thirty-two C57BL/6J mice (six weeks old) were used, being divided in four groups, each one containing eight animals: Control-water (trained), Control-water (sedentary), Treated with green tea (trained) and Treated with green tea (sedentary). In the last day of the first week of adaptation, the trained animals went through a protocol of gradual load training until exhaustion. In the subsequent weeks, these animals swam five times per week, with overloads that were increased 5% on each week, based on their weight, which was measured weekly. The experiment lasted for 6 weeks and, in this period, the animals received commercial food, and water or green tea, according to the group, *ad libitum*. Green tea was offered to the animals as a 3% infusion. It was observed that the Green Tea-treated and trained group displayed a significant weight loss, less visceral fat and smaller food intake when compared to the other groups. There was a significant difference between the levels of blood triglycerides of the sedentary groups and the trained ones. In addition, a significant reduction of lipid peroxidation was observed between trained and sedentary groups. In conclusion, green tea intake improved the lipidic profile of trained mice, stimulated the lipidic catabolism, contributed to weight loss, and also diminished lipid peroxidation in liver and kidneys of trained mice.

Palavras Chaves: *antioxidant, Camellia sinensis, green tea, hydroperoxides, physical exercise*

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